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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,899	09/19/2001	Dillis V. Allen		1616

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EXAMINER

VARMA, SNEH K

ART UNIT	PAPER NUMBER
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3711

DATE MAILED: 07/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/955,899

Applicant(s)

Allen

Examiner

Sneh Varma

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Sep 9, 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) None is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) None is/are objected to.
- 8) ☒ Claims None are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Priority

1. This application repeats a substantial portion of a prior Application No. 09/344,172, filed on June 24, 1999, now Patented 6,354,961 and a copending Application U. S. Serial No. 09/614,107, filed on July 12, 2000, and adds and claims additional disclosure not presented in the prior application. Since this application names an inventor or inventors named in the prior application, it may constitute a continuation-in-part of the prior application. Should applicant desire to obtain the benefit of the filing date of the prior application, attention is directed to 35 U.S.C. 120 and 37 CFR 1.78. ✓

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show numerous features disclosed in the specification such as; Figure 14 is not labeled at all, Figure 8 does not label flange portions 60 and 62 as described in the specification on Page 22. Likewise, in Figures 1, 6, 7 and 8 features 40, 42 and 43 described in the specification are not labeled. A correct labeling of all features in the drawings is required. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the ✓ ✓

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Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. Appropriate correction is required.

Specification

3. The disclosure is objected to because of the following informalities: as recited above, the labeling of the features in drawings are either missing or inaccurate. The disclosure is insufficient. Appropriate correction is required. ✓

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In Claims 1, 8, 9, and 12, the recitation of "engaging" or "engagement" of the unit cellular structure with the face wall is indefinite. The Examiner is not certain if this terminology is used in lieu of "joined" or "abutted" or if it used to describe a simple connection of the unit cellular structure with the face wall. In addition, the area of "engagement" between the unit cellular structure and the face wall is not defined or identified in the drawings. ○

Claims 6, 7, 11, and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In these Claims the recitation of "a plurality of ribs," "ribs," ✓

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“first bar portion” and “second bar portion” is indefinite. Applicant’s terminology is not consistent with the disclosure on Pages 21-22. Appropriate correction is required.

6. Claims 6, 7, 11, and 12 recite the limitation "a plurality of ribs," "ribs," first and second "bar portion." Likewise, Claim 4 recites "unit cellular structure is open over 60% of the area of the unit cellular structure." There is insufficient antecedent basis for these limitations in the claim. ✓

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1, 2, and 10-12 of U.S. Patent No. 4,930,781 (Allen '781) in view of Lu '814 (Lu), Anderson et al. '419 (Anderson) and Raymond '399 (Raymond). Allen '781 discloses a golf club head, comprising: a club head body having a face wall with a ball striking surface and a rear surface, a perimeter wall surrounding the face wall and attached to the perimeter of the face wall, and a unit cellular structure formed from the face wall positioned immediately behind and engaging the rear surface of the face wall. Allen'781 also discloses that the unit cellular structure includes a plurality of open cells surrounded by other open cells. However, Allen'781 fails to disclose that the unit cellular structure is generally planar and has a forward surface spaced rearwardly from the rear surface of the face wall less than 0.100 inches and that the unit cellular structure includes a plurality of ribs with open spaces between the ribs.

Lu teaches the use of a golf club head 10 (Figures 1-5; Column 4, lines 24-29; Column 5, lines 52-64; Column 6, lines 4- 67) comprising a face plate 14, an abutment 30 fixed in the club head body spaced rearwardly from the ball striking face wall and positioned sufficiently close to the face wall so the face wall impacts the abutment at a given club head speed, the abutment including a generally planar wall fixed in the club head body extending behind and across a

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substantial portion of the ball striking face wall, a perimeter wall 42 extending rearwardly from the face wall 14, and the club head body receiving the perimeter wall and the face wall.

Anderson teaches the use of a golf club head 10 (Figures 1-7; Column 3, lines 8-39; Column 5, lines 15-20), comprising: a club head body having a face wall with a ball striking surface and a rear surface, and a reinforcement structure 18 formed separately from the face wall and positioned immediately behind engaging the rear surface of the face wall (Column 5, lines 15-20).

Raymond teaches the use of a golf club head with a unit cell structure which includes a plurality of ribs with open spaces between the ribs (Figures 1-10; Column 5, lines 8-34; Column 6, lines 23-67). Raymond also teaches that the ribs have a "T" shaped cross section and define a honeycomb-like structure (Column 5, lines 8-34; Column 6, lines 43-67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the abutment wall spaced from the face wall as taught by Lu; the abutment wall formed separately and positioned as taught by Anderson; and the unit cell structure as taught by Raymond in the Allen'781 device to provide the means to increase the modulus of elasticity of the face wall at lower manufacturing cost.

It would also be obvious to an artisan skilled in the art of manufacturing the golf club heads that the modified Allen'781 golf club heads would incorporate a variation in thickness of the face wall and the structure of the unit cellular wall, a varying distance between the unit cellular structure and the face wall, a varying modulus of elasticity of the face wall, and

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designation of the range of club head speed appropriate for a specific club head, the same properties as claimed in the instant application.

9. Claims 1-7 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1 and 13-19 of copending Application No. 09/614,107 (Allen'107) in view of Allen'951, and Anderson.

The Application No. 09/614,107 (Allen'107) claims a golf club head having a ball striking face wall and a perimeter wall extending rearwardly from the face wall, and an abutment means fixed in the club head body spaced rearwardly from the ball striking face wall positioned sufficiently close to the face wall so the face wall impacts the abutment means at a given club head speed. However, Allen'107 fails to claim the unit cellular structure positioned immediately behind and either engaging or closely spaced from the rear surface of the face wall.

Allen'951 teaches the use of a golf club head 10 (Figures 1-10; Column 4, lines 1-64) comprising a Face wall with a unit cellular structure cast integrally with and projecting rearwardly from the rear surface of the face wall. Allen'951 also teaches the use of a honeycomb structure with ribs or beams having "T" shaped cross section (Column 1, lines 37-44; Column 2, lines 38-45).

Anderson teaches the use of a golf club head 10 (Figures 1-7; Column 3, lines 8-39; Column 5, lines 15-20), comprising: a club head body having a face wall with a ball striking surface and a rear surface, and a reinforcement structure 18 formed separately from the face wall

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and positioned immediately behind engaging the rear surface of the face wall (Column 5, lines 15-20).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the abutment wall as taught by Allen'951 and Anderson in the Allen'107 device to provide the means to increase the modulus of elasticity of the face wall at lower manufacturing cost by utilizing a unit cellular structure formed separately from the face wall and positioned immediately behind and either engaging or closely spaced from the rear surface of the face wall.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu in view of Raymond, Anderson, and either Chou'081 (Chou) or Kosmatka'547 (Kosmatka).

Lu discloses the use of a golf club head 10 (Figures 1-5; Column 4, lines 24-29; Column 5, lines 52-64; Column 6, lines 4- 67) comprising a ball striking face wall 14, a perimeter wall 42

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extending rearwardly from the face wall 14, and the club head body receiving the perimeter wall and the face wall; an abutment wall 30 fixed in the club head body spaced rearwardly from the ball striking face wall and positioned sufficiently close to the face wall so that the face wall impacts the abutment wall at a given club head speed as claimed by the Applicant. Lu also discloses that the gap between the face wall and the abutment structure is between 0.001-0.30 inch (Column 6, lines 18-24; Column 8, lines 64-65) and substantially parallel to the abutment wall (Figures 1-5).

However, Lu fails to disclose a unit cellular structure formed separately using "T" shaped beams or ribs and designed to be used at club head speeds under 110 mph.

As recited above, Raymond teaches the use of a unit cell structure using "T" shaped beams or ribs. Anderson teaches the use of an abutment wall formed separately and engaging the rear surface of the face wall.

Kosmatka teaches the use of a golf club head (Figures 1-4; Column 4, lines 23-67; Column 5, lines 48-67) with the face wall having a thickness in the range of 0.010 inch to 0.250 inch and an abutment disposed rearwardly to the face wall (Column 6, lines 1-33). Kosmatka also teaches that the club head is capable of imparting a high coefficient of restitution for speeds less than 110 miles per hour (Column 2, lines 39-57).

Chou teaches the use of a wood-type golf club head 10 (Figures 1-11; Column 3, lines 5-54, Column 2, lines 15-20) including an impact wall 16, the impact wall comprising: a thin and flexible faceplate 16 in the front part; and an abutment wall 14 disposed rearwardly to the

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face wall, the faceplate and the abutment wall being spaced at a predetermined gap 18 (Column 5, lines 50-54). Chou also teaches that the club head is capable of imparting a high coefficient of restitution for speeds less than 110 miles per hour (Column 5, lines 47-61).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the arrangement taught by Raymond, Anderson and either Chou or Kosmatka in the Lu device to manufacture golf club heads with thin, flexible face walls for improved energy transfer to a golf ball using a unit cell structure as an abutment means for limiting the deflection of the face wall during a high speed impact with the golf ball. An artisan skilled in the art of manufacturing the golf club heads would recognize that the modified Lu device would incorporate a variation in thickness of the face wall and the structure of the unit cellular wall, a varying distance between the unit cellular structure and the face wall, a varying modulus of elasticity of the face wall, and designation of the range of club head speed appropriate for a specific club head, the same properties as claimed in the instant application.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Varma whose telephone number is (703) 308-8335. The examiner can normally be reached on Monday to Friday from 8:00 A.M. - 4:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Paul Sewell, can be reached on (703) 308- 2126.

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The Official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9302 and the fax phone number After Final Office Action is (703) 872-9303. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

July 10, 2002

Sneh Varma, Patent Examiner

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Paul T. Sewell
Supervisory Patent Examiner
Group 3700